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## Resilient leadership in hospitality and tourism enterprises: Conceptualization and scale development

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# **Resilient leadership in hospitality and tourism enterprises: Conceptualization and scale development**

## **ABSTRACT**

**Purpose** - This research conceptualized the dimensions of resilient leadership and developed the Resilient Leadership Scale (RLS) through three studies.

**Design/methodology/approach** - In Study 1, based on interviews with 77 leaders and 8 junior employees, a seven-factor resilient leadership model was constructed. In Study 2, exploratory factor analysis (n=237) was conducted to refine the initial items. In Study 3, confirmatory factor analysis (n=610) was performed to validate the dimensional structure identified in Study 2, and the convergent, discriminant, nomological, and predictive validities of the RLS were assessed.

**Findings** - The validated resilient leadership scale composed of seven dimensions: contingency planning, improvisation, adaptive instructing, contingency control, emergency care, adjustment recovery, and mutual growth. The scale showed desirable measurement qualities in terms of reliability and validity. Resilient leadership and its dimensions significantly impact employee turnover intentions and employee resilience.

**Implications** - This research provides a new perspective and research direction for the research on resilience of hospitality and tourism enterprises, and enriches the research scope and theoretical framework of resilient leadership.

**Originality/value** - This research revealed the resilient leadership responses to crisis in hospitality and tourism enterprises with practical implications for tourism enterprise leaders

to deal with major crisis.

**Keywords:** Resilient leadership; tourism enterprise; improvisation; mutual growth; crisis life cycle theory

## 1. Introduction

The survival and development of hospitality and tourism enterprises are highly sensitive to crisis and safety issues (Xie *et al.*, 2022). The recent major crises have seriously threatened the survival and development potential of hospitality and tourism enterprises in the affected places, and even negatively affected the global tourism market through their rippling effects. For example, hospitality and tourism enterprises including travel agencies, hotels, tourist attractions, theme parks, and online travel platforms, have faced the challenge of closing their businesses during the COVID-19 pandemic. Nevertheless, amid the COVID-19 pandemic, while some hospitality and tourism enterprises were sluggish and fell into a survival crisis, others were able to recover and grow quickly. For example, Ctrip, as the largest online travel platform in China, demonstrated exemplary resilience when facing the devastating impact of COVID-19. During the first wave of the COVID-19 pandemic that brought the entire tourism industry to a standstill, Ctrip's top leaders embraced a digital transformation strategy. Mr. James Liang, chairman of Ctrip's board of directors, led the leadership team to launch a series of self-rescue measures such as "BOSS live streaming", which helped to recover and reinvigorate the business (Xie *et al.*, 2022). Such type of resilient leadership style and leadership practice warrants more academic research and examination.

The development of leadership theory has experienced a long evolution process. The earliest leadership trait theory emphasized that leadership cannot be developed because leadership was seen as inborn quality (Borgatta *et al.*, 1954), and the subsequent leadership behavior theory focused on exploring effective leadership patterns and styles from the perspective of leadership behavior and practice (Hemphill and Coons, 1950). With the rapid

change of the business environment, leadership practices need to adapt to the environment, leading to the emergence of contingency leadership theory, transformational and transactional leadership theory (Emmerling *et al.*, 2015; Li and Wei, 2010; Huertas-Valdivia *et al.*, 2022). According to the contingency theory of leadership, there is no absolutely effective leadership in organizational management, and leaders should adopt appropriate leadership styles based on different situational conditions to achieve optimal development of the organization (Abbas and Ali, 2023; Emmerling *et al.*, 2015; Kloutsiniotis *et al.*, 2022; Monehin and Diers-Lawson, 2022). In a risky business environment, resilient leadership emerges as a new leadership style emphasizing adaptability and dynamic recovery. Current research has discussed leaders' resilience in major crisis situations (Fang *et al.*, 2020; Lombardi *et al.*, 2021); in addition, leaders' resilience-oriented coping mechanisms and response strategies in crisis have also been studied (Giousmpasoglou *et al.*, 2021; Haver *et al.*, 2014; Kim and Windsor, 2015). It is generally believed that leaders with resiliency characteristics can help tourism companies maintain robust, restorative and dynamic adaptability in crisis situations, further promoting employee resilience and life satisfaction, organizational resilience and innovation (Fang *et al.*, 2020; Prayag *et al.*, 2020). However, the personal trait of resilience appears to be the "implicit gene" with some leaders and resilient leadership in crisis or adversity goes beyond such a personal trait (Lombardi *et al.*, 2021; Prayag *et al.*, 2020). Existing research appears to have failed to capture the dynamic and multidimensional nature of resilient leadership from a process perspective. Due to the sensitivity and vulnerability of hospitality and tourism enterprises to catastrophic changes, how these enterprises can develop effective leadership before, during, and after the crisis to achieve timely adaptation and

recovery seems to be a pragmatic research need (Berbekova *et al.*, 2021; Senbeto and Hon, 2021).

Three key research gaps exist with regard to resilient leadership in hospitality and tourism enterprises. First, the previous research is short of investigations of resilience responses to crisis from the leadership perspective. Current research mainly focused on two aspects of employee resilience and organizational resilience (Chen and Qi, 2022; Hall *et al.*, 2023; Melián-Alzola *et al.*, 2020; Saad and Elshaer, 2020). The role of leadership resilience in promoting enterprises' adaptation and recovery received limited consideration (Fang *et al.*, 2020). Also, hospitality and tourism enterprise leaders were studied in assessing the crisis impact and developing leaders' crisis management strategies accordingly (Giousmpasoglou *et al.*, 2021; Ivanov and Stavrinoudis, 2018; Okumus and Karamustafa, 2005; Xie *et al.*, 2022). These prior studies ignored resilience response from the perspective of leadership. As an adaptation- and growth-oriented leadership style, resilient leadership reveals how leaders lead their teams to “dance with crises”, adapt to multiple adversities, and promote business growth (Lombardi *et al.*, 2021), thus requiring more investigation, in the field of hospitality and tourism.

Second, limited research has explored the dimensional structure of resilient leadership from a crisis response perspective. The current research on resilient leadership is still in its infancy (Giustiniano *et al.*, 2020; Li, 2019). Scholars have explored the dimensions of resilient leadership from different perspectives, and the constructed dimensional structure tended to focus on leaders' resilient qualities and behaviors. For example, Dartey-Baah (2015) identified six core elements of resilient leadership: strategic thinking, emotional

intelligence, adaptation/change orientation, performance orientation, learning, and collective leadership. Importantly, resilience is derived from a dynamic response to crisis or major adversity (Hall *et al.*, 2023; Zhu *et al.*, 2019). The life cycle characteristics of enterprise crisis management also require leaders to adopt targeted resilience response strategies according to the stage of crisis, thus achieving effective adaptation and rapid recovery (Faulkner, 2001; Weick, 1988; Wooten and James, 2008). Accordingly, it is necessary to identify the dimension structure of resilience leadership from the perspective of crisis life cycle theory.

Third, a validated and rigorously developed resilient leadership scale is lacking. Several studies measured resilient leadership by adopting resilience trait scale or self-designed scales (e.g., Qiao *et al.*, 2022; Singh *et al.* 2023). However, it is inappropriate to measure resilient leadership from the perspective of trait resilience. Self-designed scales which had not been through a rigorous scale development process may have validity problems. Therefore, it is necessary to follow the rigorous scale development procedure to develop and validate resilient leadership scale.

This study has two specific objectives: 1) to identify the connotation and dimensions of resilient leadership through interviews with leaders and junior employees based on crisis life cycle theory; and 2) to develop the Resilient Leadership Scale (RLS) through a multi-stage scale development procedure. This research provides a new perspective and research direction for hospitality and tourism enterprises resilience research, and enriches the research scope and theoretical framework of resilient leadership.

## **2. Theoretical basis and literature review**



## *2.1. Resilience*

Resilience is a complex concept and its definition involves four orientations: trait, capacity, process, and outcome (Hu *et al.*, 2015; Zhu *et al.*, 2019). A trait-oriented approach regards resilience as an ideal personal trait that helps an individual cope with adversity and achieve adaptation and development (Connor and Davidson, 2003; Chen and Qi, 2022). The capacity orientation suggests that resilience reflects an individual's ability to cope with adverse or crisis situations, such as resistance, adaptability, survivability, restoration, and thriving (Näswall *et al.*, 2013; Wang *et al.*, 2013). From a process-oriented perspective, resilience is defined as the dynamic process by which an individual actively adapts to and recovers rapidly from multiple adversities (Saad and Elshaer, 2020; Zhu *et al.*, 2019). This dynamic process includes preparation before adversity, adaptation during adversity, and recovery and growth after adversity, and can vary and develop situationally, contextually, and temporally (Förster and Ducheck, 2017). The outcome orientation views resilience as an outcome, which is a result of individuals' good adaptation in the face of adversity (Harvey and Delfabbro, 2004). Currently, tourism scholars mainly investigated the dimensions, antecedents, and consequences of employee resilience and organizational resilience from a process perspective (Melián-Alzola *et al.*, 2020; Saad and Elshaer, 2020). Resilience in crisis and disaster situations is considered in a life cycle model that includes normal condition, deteriorating phase, adapting phase, recovering phase, and growth phase (Patterson, 2009). Therefore, the dynamic and evolutionary characteristics of resilient leadership can be better revealed from a process perspective.

## *2.2. Resilience in the leadership context*

In the current volatile, uncertain, complex, and ambiguous business environment, the research on resilience and leadership has attracted increasing attention. Some research has focused on the impact of leadership styles on employees, teams, and organizational resilience, such as empowering leadership, contingent reward leadership (Nguyen *et al.*, 2016). Others have focused on leader's resilience and resilient leadership. As for leader's resilience, scholars emphasized resilience as a quality or ability of leaders that helps them deal with adversity and challenges and thus facilitate the recovery and growth of hospitality and tourism enterprises from crises (Fang *et al.*, 2020; Prayag *et al.*, 2020). Resilient leaders can respond positively to crises and major adversity, and by demonstrating their own resilience, influence, and enhance the resilience of others and organizations. Moreover, the psychological resilience of leaders was found to have positive outcomes, predicting employee job performance (Avey *et al.*, 2011), leader-member exchange, employee innovation (Zhu *et al.*, 2015), and organizational resilience (Prayag *et al.*, 2020). Therefore, human resource management should invest resources and create safe environments to cultivate leaders' resilience quality (Eliot, 2020; Giousmpasoglou *et al.*, 2021; Ledesma, 2014).

In addition, several scholars have equated leaders' psychological resilience with resilient leadership. For example, Li (2019) defined resilient leadership as the quality of leaders who can quickly return to normal conditions when suffering setbacks, conflicts, and difficulties, and even continue to move towards the established goals persistently. Similarly, Qiao *et al.* (2022) adopted the Connor-Davidson Resilience Scale to assess resilient leadership in their examination of its positive impact on firms' research and development investment, human capital investment, and foreign direct investment. The Connor-Davidson Resilience Scale

regarded resilience as a desirable quality for individuals to adapt and thrive in adversity (Connor and Davidson, 2003).

### *2.3. Conceptual analysis of resilient leadership*

The concept of resilient leadership and its uniqueness can be clarified by distinguishing it from related concepts such as crisis leadership, leader resilience, and organizational resilience (Table 1). Crisis leadership refers to the leaders instructing, influencing, and motivating employees to overcome shocks and achieve organizational goals in crisis or emergency situations, emphasizing leaders' ability such as warning, responsibility, faith, governing, cohesion, and thriving (Wooten and James, 2008; Zheng *et al.*, 2021). The context of resilient leadership includes both adverse situations such as trauma, stress, failure, setbacks, and emergency situations such as crisis, emphasizing the mutual growth of leaders, employees, teams, and organizations. Leader resilience (psychological resilience of leader) highlights the positive personality traits of leaders in crisis or adverse situations, which help them stay well-adjusted and facilitate business recovery (Fang *et al.*, 2020; Prayag *et al.*, 2020). Although the trait of resilience can promote leaders to demonstrate resilient leadership, the connotations of resilient leadership cannot be fully covered from a trait perspective. From a process perspective, organizational resilience can be defined as a dynamic evolutionary process in which an organization adapts to its configurations in response to adverse conditions, involving various managerial actions such as identity management, reintegration, communication network building, improvisation, emotional labor, and resource deployment (Ishak and Williams, 2018; McCarthy *et al.*, 2017). Following the same process perspective, resilient leadership can be regarded as an action process initiated by leaders to instruct,

influence, and motivate the work and behavior of subordinates, aiming to help the organization overcome adversity, recover and even grow.

[Insert Table 1 here]

#### *2.4. The dimensional structure and situational difference of resilient leadership*

Currently, scholars have examined the dimensional structure of resilient leadership from different perspectives (Table 2). Dartey-Baah (2015) proposed that resilient leadership includes six dimensions: strategic thinking, emotional intelligence, adaptation/change orientation, performance orientation, learning, and collective leadership. Based on the workplace resilience framework, Förster and Duchek (2017) highlighted that resilient leadership is the result of the interaction of individual factors (e.g., traits, abilities), situational factors (e.g., private and work environment factors), and behavioral factors (e.g., personal and interpersonal behavior). Everly *et al.* (2020) identified four predictive factors of resilience-focused leadership: having a vision for success; decisiveness in bringing that vision to life; creating an environment of open, honest communications; following a moral compass that yields trust. Fu and Zhao (2022) proposed a resilient leadership framework with two levels (individual and interpersonal level) and six dimensions (i.e., political, learning, organizing, researching and judging, empathy, inspirational).

Qiao *et al.* (2022) adopted Connor-Davidson Resilience Scale (RS-25) to assess corporate resilience leadership by measuring the psychological resilience of top leaders. The RS-25 has five factors: tenacity; strength; optimism; control; spiritual influence. Singh *et al.* (2023) proposed that resilient leadership was composed of five dimensions of effectiveness,

empowerment, vision, supportiveness, and responsiveness, and its impacts on employees' psychological capital and engagement were examined through self-design resilient leadership scale. Although the dimensional structure of resilient leadership has been explored from different perspectives, the important perspective of dynamic response to crisis has not been reflected in the literature. Furthermore, a rigorously developed and validated resilient leadership scale in hospitality and tourism is still lacking.

[Insert Table 2 here]

Since resilient leadership is still in the exploratory research stage and has not received enough empirical investigation, the differences of resilient leadership in different industries and situations are not discussed. It is of unique value to identify the dimensional structure and scale of resilient leadership in the context of hospitality and tourism enterprises. First, hospitality and tourism enterprises are highly sensitive and vulnerable to crisis and disaster. Crises such as natural disasters, political stability, and terrorist attacks may have a catastrophic impact on the survival of hospitality and tourism enterprises (Hall *et al.*, 2023; Xie *et al.*, 2022). Thus, how to develop effective leadership for hospitality and tourism enterprises in crisis and disaster has become an important research need (Berbekova *et al.*, 2021; Senbeto and Hon, 2021), and resilient leadership, as a dynamic adaption-oriented leadership style, needs to be urgently researched (Lombardi *et al.*, 2021). Second, employees of hospitality and tourism enterprises are gradually regarded as high-risk occupational groups. Front-line employees and managers are exposed to multiple risks in workplace, such as occupational disease, customer mistreatment, pandemic infection, violence, and crime (Xie *et al.*, 2020). Resilience enables managers and employees to remain robust, tenacious, and

adaptable to cope with demanding job duties in a risky environment (Dai *et al.*, 2019; Saad and Elshaer, 2020). Third, major crisis and disaster has reconstructed the operation and management of hospitality and tourism enterprises, and force them to consider and adopt all resilience-based initiatives (including resilient leadership) to maintain survival, recovery, and thriving (Okumus and Karamustafa, 2005; Zhang *et al.*, 2021). However, little research has been conducted on resilience of hospitality and tourism enterprises in crisis from a leadership perspective.

### *2.5. Crisis life cycle theory and resilient leadership*

Crisis management is a general term for a series of enterprise management behaviors and response measures, aiming to limit the damage of crises (Bullock *et al.*, 2017). A crisis is not an isolated incident, and its occurrence, development, response, management, and communication follow a dynamic life cycle process. Faulkner (2001) produced a generic model for developing tourism disaster management strategies, and emphasized the measures and principles of tourism disaster management involves seven stages: pre-event, prodromal stage, emergency stage, intermediate stage, recovery stage, and resolution stage. Recently, the proposed tourism disaster management strategies were applied to reveal the response of hospitality and tourism enterprises to major crisis such as the COVID-19 pandemic (Hao *et al.*, 2020).

Leadership is regarded as a dynamic process in which roles evolve over time. In crisis situations, leadership is collective and dynamic (Northouse, 2019), and requires leaders to have perception and sense-making skills to determine appropriate strategies to deal with the

crisis at its different stages (Hao *et al.*, 2020; Steen and Morsut, 2020; Weick, 1988). The two concepts of resilience and crisis management are inherently linked and have a symbiotic relationship (Prayag, 2018). The purpose of crisis management is to reduce crisis impacts, and resilient thinking offers a complementary perspective to understand how systems cope with adversity of any scale (Prayag, 2018). Steen and Morsut (2020) proposed a crisis management framework containing resilience abilities, and highlighted the critical role of resilience in disaster response and organizational recovery. Accordingly, leaders often need to demonstrate resilience-related traits, behaviors, and strategies in crisis management, thus leading employees to mitigate crisis effect, adapt to crisis shocks, and promote recovery and development.

Based on the crisis life cycle theory, the dimensions and attributes of resilient leadership can be identified from leaders' management actions in different crisis stages. Currently, crisis life cycle theory is used to explore the response strategies and management actions that leaders need to take at different stages of a crisis. For example, based on the five-stage crisis management model, Wooten and James (2008) proposed that leaders need to determine corresponding strategies in signal detection (sense-making, perspective taking), prevention and preparation (issue selling, organization ability, creativity), containment and damages (decision making, communicating, risk taking), business recovery (promoting organizational resilience), and learning and reflection (learning orientation) stages. On this basis, they constructed a crisis leadership model accordingly. Similarly, Boin *et al.* (2019) proposed ten key tasks for top managers at different stages of crisis management. For major long-term crisis such as the COVID-19 pandemic, Thwaite (2022) highlighted that leaders need to

establish both short- (e.g., building essential support networks, sharing information) and long-term coping strategies (e.g., reflection, establishing a new normal). Therefore, in different crisis stages, leaders need to adopt tailored management strategies and tasks to eliminate the crisis impact, achieve effective adaptation, and promote the rapid recovery. These resilience-oriented leadership practices in different crisis stages constitute the dimensional structure of resilient leadership. Accordingly, this research proposed the two research questions:

RQ1: What are the core strategies that resilient leaders need to adopt at different crisis stages?

RQ2: Based on crisis life cycle theory, what is the dimensional structure of resilient leadership? and how to measure it?

### **3. Overview of the research design**

Following Churchill's (1979) recommendation, a mixed method research design composed of three studies was adopted to identify the dimensional structure of resilient leadership of tourism enterprise, and further develop a Resilient Leadership Scale of hospitality and tourism enterprise. In Study 1, the connotation and dimensions of resilient leadership were identified through a structural non-numerical questionnaire interview. In Study 2, the initial measurement scale was generated through literature review, expert assessment; after a pilot test, an explanatory factor analysis was performed for scale refinement and dimension identification. Study 3 validated the dimensional structure identified in Study 2, and the convergent, discriminant, nomological, cross-, and predictive



validities of the proposed scale were assessed.

#### **4. Study 1: The dimensions of resilient leadership**

##### *4.1. Research design*

This research identified the dimensional structure of resilient leadership through interviews with both leaders and junior employees. We adopted a structured non-numeric questionnaire to interview leaders and employees online, and the interviewees were asked to answer in text form (Chinese).

An expert group, composed of two tourism professors and four Ph.D. students, first proposed five interview questions based on literature review. These questions covered crisis response and effectiveness, leader traits, leader behaviors, and employee response. Since the concept of resilient leadership is abstract and not well known by employees, the research team developed representative and understandable questions based on the meaning of resilient leadership rather than directly using the term of resilient leadership. The online interview questionnaire contained several demographic variables and the following five open-ended questions:

- 1) “The COVID-19 pandemic threatens the survival of all hospitality and tourism enterprises. How was your enterprise dealing with it and to what extent?”
- 2) “During the COVID-19 pandemic, what qualities and abilities should leaders have to lead their employees through this crisis?”
- 3) “How are these qualities and abilities of leaders reflected in their work?”

4) “How should leaders treat and manage employees in coping with such a crisis?”

5) “What role does resilient leadership play in crisis management in general?”

#### *4.2. Data collection*

The interviews were conducted through an online survey on a leading market research website ([www.wjx.cn](http://www.wjx.cn)) through convenience sampling of employees and leaders of hospitality and tourism enterprises. The surveyed enterprises were located in several provinces in eastern and central China. The hyperlink to this survey was first sent to senior leaders (e.g., general managers, directors) to gain an overall understanding of the connotation and dimensions of resilient leadership. Since junior employees are the direct providers of tourism services, as well as the actors in responding to crises and implementing leaders’ instructions, interviewing junior employees can supplement important inputs from the employee perspective. Therefore, the interviewed senior leaders were asked to forward this hyperlink to middle-level leaders (e.g., managers, supervisors) and junior employees. We ensured the interviewees’ right to privacy and anonymity, and emphasized that the interview results were for academic purposes only. Thus, there was no conflict of interest in the whole research process.

A total of 85 leaders and employees (27 senior leaders, 50 middle leaders, and 8 junior employees) filled in the interview questionnaire in May, 2021. The average questionnaire filling time was about 25 minutes. Interview profile can be found in the online supplementary material.

#### *4.3. Data coding and analysis*

Thematic analysis was employed to code and analyze the interview data following the three-

stage procedure by Miles *et al.* (1994): familiarization, coding, and categorization. Detailed explanation of the coding and analysis process can be found in the online supplementary material.

#### 4.4. Results

As presented in Table 3 and Figure 1, based on Faulkner's (2001) framework for tourism disaster management, this research divided the crisis management cycle into 6 stages: pre-event, prodromal, emergency, intermediate, long-term (recovery), and resolution stage. Leaders' resilience strategies in each stage were identified and the dimensions of resilient leadership were developed accordingly. After cross-coding by two researchers and expert group discussions, 1,762 codes were identified and merged into 31 normative concepts, extracting 7 core themes. Resilient leadership in hospitality and tourism enterprises included seven dimensions: contingency planning, improvisation, adaptive instructing, contingency control, emergency care, adjustment recovery, and mutual growth, corresponding to the core action strategies of leaders in the pre-event, prodromal, emergency, intermediate, long-term (recovery), and resolution stage respectively. When coding the information provided by the 86th, 87th, and 88th respondents, neither new normative concepts nor core themes were obtained, suggesting the saturation of the data.

Specifically, contingency planning is the beginning of resilient leadership. It referred to leaders' strategy formulation and preventive management in pre-event stage, aiming to avoid crises and ensure orderly business operations, such as prevention plan, resource assurance, forward-looking, and insight-seeking. Improvisation referred to leaders' rapid, emergency

and effective response to a crisis. In the prodromal stage, leaders need to improvise; specific actions include confronting and dealing with crisis through emergency response, flexibility, being active and unflappable, attention to risk situations, and effort to eliminate the crisis in its early state. In the emergency stage, leaders should not only provide adaptive instruction and assistance such as instructing and arranging, role modelling, unity and cohesion, and information sharing for employees to actively cope with the crisis, but also regulate employees' behavior and improve crisis response effectiveness through clear task requirements and role duties. Leaders need to develop emergency care to meet the short-term needs of the affected groups in the intermediate stage. Specifically, leaders should care about employees' work and life, meet the needs of customers, and value the social benefits of the enterprise in this stage.

In the long-term (recovery) stage, it is an important task for leaders to adjust and restore the operation and performance of hospitality and tourism enterprises. The specific strategies included restoring business operation and employee passion, responding to market, making recovery plans, and internal adjustment. In the resolution stage, mutual growth refers to leaders' review of the crisis management process and commitment to establishing a new normal, thus fostering the mutual development and growth among employees, leaders, and the enterprises. In summary, based on the above findings, resilient leadership can be reflected in the actions that leaders take to influence employees' behavior in different stages of a crisis, aiming to help the organization and its members reduce risk, overcome adversity, adapt to shocks, restore balance, and even achieve growth. And resilient leadership can be fully captured in the seven-factor model composed of contingency planning, improvisation,

adaptive instructing, contingency control, emergency care, adjustment recovery, and mutual growth.

[Insert Table 3 here]

[Insert Figure 1 here]

## **5. Study 2: Item generation and purification**

### *5.1. Item generation*

Following Xie *et al.* (2022), the original resilient leadership measurement items were generated in four steps. First, based on the identified concepts and dimensions in Study 1, relevant items related to resilient leadership in previous research were extracted and aggregated through a thorough literature review, and an initial item pool of 55 items was generated. Since the survey was conducted for hospitality and tourism enterprises in China, the expert group translated the English items in previous literature into Chinese and ensured their validity. Second, according to the identification of the connotation of each dimension in Study 1, 28 items were developed and added to the item pool to ensure clarity and accuracy. Third, the content validity of each item was verified by the expert group. Specifically, items with similar meanings were merged, items that did not conform to the research context were removed, and some items were revised and refined based on the industry and pandemic crisis context. As a result of this step, a pool of 50 items was generated. Fourth, a pilot test was conducted to test the reliability and validity of the items. After filling in the questionnaire, the surveyed employees were asked to express their thoughts on the accuracy of the description of items as well as the validity of item in the form of text. Based on the pilot test results and

employee feedback, the expert group optimized the items through several rounds of seminars and discussion, forming the first formal survey questionnaire.

### *5.2. Pilot test*

A pilot test was conducted with several hospitality and tourism enterprises on September 1, 2021, and 157 valid questionnaires were collected. The results showed that the Cronbach's alpha for contingency planning (0.807), improvisation (0.931), adaptive instructing (0.813), contingency control (0.799), emergency care (0.939), adjustment recovery (0.798), and mutual growth (0.844) were all greater than the 0.7 threshold, suggesting satisfactory internal consistency. The results of exploratory factor analysis showed that the KMO (Kaiser-Meyer-Olkin) index of the whole scale was 0.891, and the communality of each item was above 0.5. However, the results of factor matrix showed that the factor loadings of several items were below 0.5, and some items had cross-loading among factors, and some factors were difficult to be identified clearly (e.g., improvisation and emergency care, adaptive instructing and contingency control).

Moreover, some surveyed employees thought that some items are inconsistent with industrial practice, and several items with similar meaning needed to be revised and optimized. Specifically, some items were identified to be inconsistent with the pandemic prevention strategies adopted by leaders, such as "leaders fire or abandon employees who violate pandemic prevention regulations". Several items had similar connotations and meanings, such as "leaders convey confidence to employees to overcome the pandemic", "leaders find ways to restore employee morale and passion after the pandemic". Also, the

expression of some items needed to be further revised and optimized based on tourism and the COVID-19 pandemic context. Accordingly, the expert group revised the measurement items, and 41 items were included for subsequent steps of the scale development (Appendix 1).

### *5.3. Data collection*

On 10 September, 2021, a survey was conducted with respondents from hospitality and tourism enterprises in several cities in Fujian, China through convenience sampling, lasting for 20 days. The survey data were collected through a leading market research website ([www.wjx.cn](http://www.wjx.cn)) in China. The survey hyperlink was sent to the senior managers of surveyed enterprises, with the request for them to forward it to employees at various positions in their organizations. The research team informed the research purpose and ensured anonymity on the survey site to ensure data quality, highlighting that there is no absolutely right or wrong answer of each item. A total of 300 questionnaires were returned, of which 237 were valid, with an effective response rate of 79.0% (Table 4). And the ratio of subjects to items was 7.32:1, better than 5:1, which met the standard recommended by Gorsuch (1974).

[Insert Table 4 here]

### *5.4. Reliability assessment*

The results showed that the Cronbach' alpha of the whole scale was 0.976, and the Cronbach' alpha for contingency planning, improvisation, adaptive instructing, contingency control, emergency care, adjustment recovery, and mutual growth were 0.943, 0.928, 0.937, 0.890, 0.945, 0.919, and 0.900, respectively, all greater than the critical criterion of 0.7. In addition,

the corrected item-to-total-correlation (ITTC) of each item ranged from 0.519 to 0.843, surpassing the recommend level of 0.5. These results indicated that the scale and its intended composing dimensions had good internal consistency.

### *5.5. Exploratory factor analysis (EFA)*

EFA with principal component method and varimax rotation was performed to identify the dimensions of the scale. After 8 rotations, the 41 items were found to load on seven factors with eigenvalue above 1, and the KMO index was 0.959 ( $>0.7$ ). However, the factor loadings of several items (e.g., IM01, AI01) were lower than 0.5, and some items (e.g., CC01, CC02) exhibited cross-loadings or discrepancies with the qualitative analysis results. Following Straub (1989), items meeting any of the following criteria were removed: (1) communality lower than 0.5; (2) factor loading lower than 0.5; and (3) cross-loading. Accordingly, seven items were removed and the EFA was re-performed. The results (Table 5) indicated that the KMO index was 0.954, and seven factors were extracted. Both the communality scores and the factor loadings were above the threshold value of 0.5, and the Cronbach' alpha for each factor was above 0.7. And the 7-factor solution accounted for 78.03% of the total variance.

[Insert Table 5 here]

## **6. Study 3: Scale validation**

### *6.1. Data collection*

Another round of online survey was conducted in October, 2021. The survey was conducted with 27 hospitality and tourism enterprises in China through convenience sampling. The collected samples covered 11 provinces in eastern (e.g., Fujian, Zhejiang, Guangdong),



central (e.g., Anhui, Hunan, Jiangxi), and western (e.g., Sichuan, Chongqing, Guizhou) China. The survey hyperlink was sent to senior managers requesting them to forward to employees at different levels. The research team also entrusted tourism government departments to share the survey link to senior managers of hospitality and tourism enterprises in their jurisdictions. Finally, a total of 800 questionnaires was returned with 610 valid ones, indicating an effective response rate of 76.25% (Table 4).

## 6.2. Confirmatory factor analysis (CFA)

AMOS 21.0 was used for CFA analysis. According to Hair *et al.* (2010), the default model was adjusted and improved based on the following criteria: (1) the standardized factor loading of each item being above 0.5; (2) the average variance extracted (AVE) of each factor (dimension) being above 0.5; and (3) the model modification indices. Accordingly, five items (AI04, CC06, EC01, AR01, and MG02) were removed to achieve a better factor structure and goodness-fit-indices:  $\chi^2/df=3.013(1<, <5)$ , SRMR =0.058 (<0.08), RMSEA= 0.057 (<0.08), NFI = 0.922 (>0.9), CFI = 0.947 (>0.9), TLI=0.937 (>0.9), IFI=0.947 (>0.9), RFI=0.909 (>0.9), GFI=0.892 (>0.8), PNFI=0.784 (>0.5). The Cronbach' alpha for each dimension was still above 0.7 after the items were deleted. Moreover, the standardized factor loadings of all items ranged from 0.554 to 0.958, the AVE values of the factors ranged from 0.553 to 0.705, and the composite reliability (CR) scores of the factors ranged from 0.840 to 0.900, all suggesting good convergent validity (Table 6).

[Insert Table 6 here]

### *6.3. Correlation analysis*

As presented in Table 7, the Pearson correlation coefficients between pairs of the factors ranged from 0.426 to 0.692, which were all significant at  $p < 0.01$  level, suggesting nomological validity. In addition, the maximum value of Pearson correlation correlations (0.692) was lower than the minimum value of square root of AVE (0.743), providing evidence of discriminant validity of the scale.

[Insert Table 7 here]

### *6.4. Competing Model comparisons*

As presented in Figure 2, four competitive models were compared and tested to identify the optimal dimensional structure of the scale. Regarding model fit indices, model 1 and model 2 failed to satisfy the required levels, suggesting a poor model fit (see online supplementary material). Model 3 and model 4 had a better goodness-fit-indices than model 1 and model 2, and these two models demonstrated satisfactory fit indices ( $1 < \chi^2/df < 5$ , SRMR  $< 0.08$ , RMSEA  $< 0.08$ , NFI  $> 0.9$ , CFI  $> 0.9$ , TLI  $> 0.9$ , IFI  $> 0.9$ , RFI  $> 0.9$ ). In model 4, the standardized factor loading of the seven dimensions (CP, IM, AC, CC, EC, AR, and MG) on the second-order resilient leadership were 0.759, 0.819, 0.853, 0.776, 0.759, 0.822, and 0.803, respectively, surpassing the cut-off value 0.5 and being statistically significant at 0.01 level. Therefore, the seven correlated first-order factor measurement model (Figure 2-3), and the second-order measurement model (Figure 2-4) were both plausible with the data.

[Insert Figure 2 here]

### 6.5. Cross-validity

The sample of Study 3 was randomly divided into two groups (50% vs 50%), and the cross-validity of the scale was assessed through an inter-sample invariance test. The results indicated that the model fit indices of the unconstrained model ( $\chi^2/df=2.348$ , RMSEA =0.047, SRMR =0.060, CFI =0.930, TLI =0.918, IFI =0.931, PNFI =0.753) and the constrained model ( $\chi^2/df=2.320$ , RMSEA =0.047, SRMR =0.063, CFI =0.930, TLI =0.920, IFI =0.930, PNFI =0.775) were both acceptable, and the chi-square difference between the two samples was insignificant ( $\Delta\chi^2$  ( $\Delta df=22$ )=31.653,  $p=0.084 > 0.05$ ). In addition, another 249 valid questionnaires were collected in other crisis situations (e.g., product crisis) to test the cross-context validity of the scale. The CFA results showed that except for one comparative fit index (NFI), all other goodness-fit indices met the critical threshold values:  $\chi^2/df=1.631$ , RMSEA =0.050, SRMR =0.042, CFI =0.938, TLI =0.929, IFI =0.938, PNFI =0.756. Therefore, the scale was deemed to be robust across different samples and crisis situations, demonstrating good cross-validity.

### 6.6. Predictive validity

Employees may have higher intention to quit in crisis or threat situations (Xie *et al.*, 2022), and leadership, such as ethical leadership, transformational leadership, have been identified as antecedents of employee turnover intention (Park and Min, 2020). In addition, the psychological resilience of leaders positively impacts employees' resilience (Prayag *et al.*, 2020). Accordingly, the predictive validity of RLS was tested by examining the effect of resilient leadership on employees' turnover intention and resilience. To measure turnover

intention, employees were asked to indicate the possibility that they may leave their enterprise using a seven-point Likert-type scale ranging from 1 (very unlikely) to 7 (very likely). And six items based on Prayag *et al.* (2020) were adapted to measure employee resilience. The results (see online supplementary material) showed that resilient leadership and its dimensions predicted employee turnover intention negatively and predicted employee resilience positively. Accordingly, predictive validity of the scale was established.

## **7. Conclusion and discussion**

### *7.1. Conclusion*

The main objective of this research was to identify the dimensional structure of resilient leadership in hospitality and tourism enterprises in crisis, and develop a validated RLS. The main conclusions were as follows:

First, resilient leadership is a multi-dimensional and complex concept, including seven dimensions: contingency planning, improvisation, adaptive instructing, contingency control, emergency care, adjustment recovery, and mutual growth. Based on the crisis life cycle theory, the dimensions of resilient leadership matched with the leaders' tasks emphasized in different crisis management stages.

Second, the validated RLS showed desirable measurement qualities in terms of reliability and validity. This scale was stable across different samples and crisis contexts, and also demonstrated predictive validity in negatively predicting employee turnover intentions and positively predicting employee resilience. In addition, there were dimensional differences in the perceived and impact levels of resilient leadership. Comparatively, adaptive instructing,

contingency planning, and improvisation were relatively high, suggesting that leaders focused on pre-crisis prevention planning and emergency response in its outbreak. Emergency care had the strongest negative impact on employee turnover intention. Thus, leaders should demonstrate caring and social responsibility in a crisis to maintain the stability of the workforce.

## *7.2. Theoretical implications*

First, this research revealed the resilience response structure of hospitality and tourism enterprises to crisis from a leadership perspective, which enriched and expanded the research scope of tourism resilience, and provided a new perspective and direction for researching resilience in hospitality and tourism enterprises. Existing research has explored the resilience response of hospitality and tourism enterprises to crisis or adversity mainly from the perspectives of employees and organizations (Chen and Qi, 2022; Melián-Alzola *et al.*, 2020; Saad and Elshaer, 2020), and has mainly examined leaders' psychological resilience and resilience-oriented strategies (Fang *et al.*, 2020; Giousmpasoglou *et al.*, 2021; Lombardi *et al.*, 2021; Prayag *et al.*, 2020). However, from a leadership perspective, the resilience response structure of hospitality and tourism enterprises to crises, is yet to be examined. Berbekova *et al.* (2021) emphasized that leadership in crisis is an important topic that needs to be addressed by tourism scholars. In answering such a call, this research explored and identified the resilience response structure of hospitality and tourism enterprises from a leadership perspective.

Second, based on crisis life cycle theory, this research proposed a seven-factor model of

resilient leadership from a process perspective, and thus enriched the understanding of the concept of resilient leadership and its dimensions. In a risk society, the leadership “theoretical map” with resilience as the core feature should be expanded and constructed, particularly for hospitality and tourism enterprises (Hall *et al.*, 2023; Huertas-Valdivia *et al.*, 2022; Lombardi *et al.*, 2021; Zhang *et al.*, 2020). Previous research has explored the dimensional structure of resilience leadership from a variety of perspectives (Dartey-Baah, 2015; Förster and Ducheck, 2017; Fu and Zhao, 2022; Qiao *et al.*, 2022; Singh *et al.*, 2023), but failed to identify resilience leadership dimensional structure from the perspective of dynamic response to crisis. Accordingly, our research clarified the concept and dimensions of resilient leadership from a crisis development process perspective. The identified seven-factor model of resilient leadership is consistent with the resilient response strategies of hotel leaders during the COVID-19 pandemic proposed by Hao *et al.* (2020) and Lombardi *et al.* (2021). Moreover, new resilient leadership dimensions such as mutual growth was identified. Therefore, the seven-factor model of resilient leadership represents an innovative application and extension of the crisis life cycle theory, and thus enriches the theoretical development of resilient leadership.

Third, this study developed the RLS, which advances the knowledge of resilient leadership by providing a reliable and valid measurement tool for future empirical investigations. Quantitative research related to resilient leadership tended to measure resilient leadership either from the trait perspective or using self-designed scales (Prayag *et al.*, 2020; Qiao *et al.*, 2022; Singh *et al.*, 2023; Zhu *et al.*, 2015). This research provides a valid measurement tool for future studies on the antecedents and consequences of resilient

leadership, thus advancing the empirical investigation of resilient leadership. Compared with previous resilient leadership scales (Azmi, 2020; Qiao *et al.*, 2022; Singh *et al.*, 2023), the developed RLS can present the whole-process action strategies of resilient leaders in different stages of crisis, and the measurement is more comprehensive and effective. Moreover, the RLS promotes the transformation of resilient leadership research from a trait and behavior perspective to a process perspective, thus expanding the theoretical perspectives of resilient leadership research.

### *7.3. Practical implications*

Hospitality and tourism enterprises should develop tailored strategies and intervention measures according to the resilient leadership dimensions identified in this study. Regarding contingency planning, leaders should be familiar with potential threats in routine management, improve their risk identification and warning capabilities, and develop contingency plans for emergencies. Regarding improvisation, in a crisis or adversity, hospitality and tourism enterprises should provide leaders with sufficient resource support, and empower leaders with autonomy and discretion to deal with emergencies, thus ensuring the orderly response to emergency actions. Also, leaders should be sensible to risk signals, pay attention to the external environment and its changes, and adjust response strategies accordingly to adapt to new environmental requirements. Regarding adaptive instructing, leaders should take the lead in a crisis or adversity, encouraging and calling on employees and teams to work together in response to threat situations. Regarding contingency control, leaders should establish a supervision and assessment system, clarify job responsibilities, and formulate reward programs to effectively regulate employee behaviors in crisis or adversity.

Regarding emergency care, leaders should develop a “employees care plan”, create an open, inclusive and supportive internal environment in times of crisis or adversity, and actively engage in emotional communication and interpersonal maintenance with affected groups such as employees, customers, and communities. Regarding adjustment recovery and mutual growth, hospitality and tourism enterprises should incorporate performance recovery, management efficiency improvement, employee learning, and leader self-improvement into the leader performance assessment system during the crisis or adversity.

#### *7.4. Limitations and future research direction*

This research has several limitations. First, this research identified dimensions and measurement of resilient leadership in the context of a pandemic crisis and using surveys of Chinese hospitality and tourism enterprises. Future research should validate this scale in different crisis situations and diverse cultural contexts. In addition, the trigger situations of resilience involve daily adverse situations, and positive events in the organization are also considered to be important factors that trigger resilience (Zhu *et al.*, 2019). Thus, future research can apply or cross-validate this scale in other types of adverse or favorable resilience driven situations. Second, the life cycle characteristics among the resilient leadership dimensions have not been closely examined. As the core strategies of resilient leadership in different crisis stages are different, it is necessary for future research to clarify the antecedents and outcomes of each core strategies.

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